DOCUMENT RESUME

ED 263 472 CG 018 629

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TITLE The Nature of Play: A Motivational Taxonomy.
PUB DATE Aug 85
NOTE 26p.; Paper presented at the Annual Convention of the American Psychological Association (93rd, Los Angeles, CA, August 23-27, 1985).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Classification; *Emotional Response; Higher Education; *Motivation; *Play; Undergraduate Students

ABSTRACT

To examine the concept of play, a taxonomy of five categories of play was devised and four studies were conducted in an attempt to distinguish among these categories on a motivational and emotional basis. Play is defined as an autotelic, self-rewarding activity. In each of the four studies, undergraduates (total N=520) read a scenario representing a type of play and imagined themselves in that situation. Subjects then completed the WHY Scale, an instrument developed to measure total motivational strength for an activity as well as the total strengths of the autotelic (play) and exotelic (work) components of the activity. Subjects also completed the Mehrabian and Russell scales that measure the emotional impact of the play activity. The results of a multivariate analysis of variance strongly favored the classification of five separate types of play and in most cases the scenarios served to delineate the parameters of each type. Other results showed that Diversive and Cathartic play were both significantly lower than other types on autotelicity. This left three forms of play: Exploratory, Creative, and Mimetic. Both Exploratory and Creative play were high in autotelicity and had little exotelic motivation. All three types of play were rated as highly pleasurable, Creative play was the least arousing, Exploratory play was characterized by feelings of least control, and Mimetic play contained the most instrumentality. (Included are data tables, an illustration of play typology, an example of the WHY Scale, and descriptions of the scenarios.) (NRB)

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The Nature of Play: A Motivational Taxonomy

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A Taxonomy of Play

Hy I. Day

Angela Fountain

When Berlyne, writing a chapter for the second edition of the Handbook of Social Psychology (Lindzey & Aronson, 1969) entitled "Laughter, Humor and Play", opined that there is "little support to the view that play is a useful category for psychology" Berlyne, 1969; p. 843), he may have been goading psychologists into a new and different thrust into researching the concept. If so, then Berlyne succeeded, for in the 15 or so years following the publication of the chapter there has been a spate of books, chapters and research papers, all of them trying to justify the concept, most by offering a utilitarian purpose for play, but a few by suggesting that play is indeed a task-intrinsic or autotelic activity that requires no extrinsic justification.

Berlyne must certainly have been challenging psychology for he continues in the same sentence that "it looks as if psychology would do well to give up the category of play in favor of both wider and narrower categories of behavior" (p. 843). By wider categories Berlyne meant to subsume the concept within the broader range of behavior he termed exploratory, in which people reacted to uncertainty in the environment, or what he termed "Collative Variability" - by searching for information; and reacted to a lack of uncertainty

- by searching for additional Collative Variability in the form of Complexity, Novelty, Inconguity, etc.

By narrower categories, Berlyne may have recognized that the concept of play, like so many other hypothetical constructs in psychology is complex and could be only mastered by a taxonomy or categorization of different types of play so that the great variability among all the behaviors we call "play" could be reduced. For indeed, it is difficult to subsume all the activities we know as play into a simple construct. To play is to whitewash a fence as Ben Rogers did for Tom Sawyer, and to gamble at Las Vegas. To play is to dress up like a doctor and explore the anatomy of a friend, and to throw a Frisbee to someone. One plays a piano, the stock market and around, Play, among adults, is also called recreation.

This paper reports the results of four studies in which we have devised a taxonomy of five categories of play and have tried to distinguish among them on a motivational and emotional basis.

Definition

In his review of the literature, Berlyne suggested that the field was "a discordant polyphony" (P. 840). However, he managed to catalogue a set of motifs and consonances that were current in most, if not all, the research and usage of the concept. These were presented as follows:

1. *It is repeatedly asserted that playful activities are carried on "for their own sake" or for the sake of "pleasure." They are contrasted with "serious" activities, which deal with readily identifiable bodily needs or external threats or otherwise achieve specifiable practical ends. (p. 840)*

2. *Many writers stress the "unreality" or "quasi-reality" of paly. "Reality" presumably refers to the forms of interaction between the organism and its environment that occupy most of its waking hours. (p. 841)*

3. *Several, but not all, of the writers we have reviewed have noted the admixture of "tension" and unpleasant excitement in play and have attached importance ot it. (p. 842)*

4. *The final question is how reduction of arousal, relaxation of tension, relief from conflict, occurs in the course of play. (p. 843)*

Since Berlyne's chapter a number of writers, some within the field of psychology and others in the fast growing discipline of leisureology, have attempted to define the concept. Often this has been in the form of an examination of free time, or discretionary activities. Since the study of play or recreation is, to these writers, the goal, rather than some extrinsic achievement, they adopt an autotelic definition and accept the notion that play is an activity that is self-rewarding and done as a consummatory activity. (cf. Ellis, 1973; Hutt, 1981; Levy, 1978). If there is long-term gain, one would then see it as secondary.

On the other hand, theorists such as Piaget (1951) and White (1959) have generally viewed play as an instrumental

behavior, programed into children to facilitate growth, socialization, effectance, etc. The immediate reward of enjoyment may serve as a short-term incentive to promote the necessary and useful activity.

Both of these approaches must concede the existence of both an immediate gratification and an eventual gain in skills. But only the autotelic approach can explain why adults continue to play and can take a more parsimonious view as to why so many non-utilitarian forms of play are performed. It may be that the instrumental position is merely a reflection of the Work Ethic which must deny purpose to anything ludic or frivolous.

The instrument

Day has held that all activities are both autotelic and exotelic. Autotelicity is characterized by playfulness and exotelicity by workfulness. He then developed an instrument, called the WHY Scale to measure the total motivational strength for any activity as well as the total strengths of the autotelic and exotelic components. The WHY Scale includes 10 statements on why the respondent is participating in an identified activity. Each statement is given a value ranging from 0 to 10. An example of the first page of the WHY Scale is presented in Table 1.

Insert Table 1

Using the WHY scale, job and leisure activities have been studied and it was shown that all activities examined were both playful and workful. These activities included such non-job activities as studentship, sports, games, hobbies and even relaxation. Play activities have also been examined and the results of four studies using the WHY scale are reported here. The results of the first two studies were presented in a chapter entitled "Play: A ludic behavior" in a book edited by Day (1981).

In addition to completing the WHY Scale, all subjects completed the Mehrabian & Russell scales that measure the emotional impact of the play activity along three dimensions: Pleasure, Arousal, and Dominance (Mehrabian & Russell, 1974).

The Taxonomy

Play was categorized into five types, each motivated somewhat differently (Day, 1984). Table 2 shows the five types of play together with the motivational basis for the taxonomy.

Insert Table 2

We then argued that looking at the concept from the motivational aspects would provide a better understanding of why people (and perhaps other animals) engage in this activity. In order to define the five sub-constructs, we then examined the motives to engage in the activities as well as the emotional impact of the activity on the players.

Method

The respondents in the four studies were undergraduate students, participating as volunteers, during their regular classes. The number of respondents were 148 in the first two sessions run simultaneously, 197 in the third, and 175 in the fourth.

Five different scenarios were constructed for each session, each one representing an example of a different type of play. Different people wrote the scenarios for the four sessions after some discussion with the senior author so that the differences might contribute to the testing of the breadth of the parameters of the construct. It was hoped that inclusion into and exclusion from the domain would help establish content validity. The scenarios for each of the five types of play are presented in Table 3.

Insert Table 3

The students were given questionnaires that asked them to read a scenario and imagine themselves in the situation. They were then required to complete the Mehrabian and Russell 18 item scale. This scale is a 9-point semantic differential type scale designed and tested by its authors (Mehrabian & Russell, 1974). The 18 scales measure the emotional impact of an environemnt and comprise 3 factors. Pleasure, Arousal and

Dominance, corresponding to the Osgood three factors of Evaluation, Activity and Potency.

Then the respondents completed the WHY Scale and finally a four question brief questionnaire measuring the vividness of their imagination and their cooperation in the study.

Results

The ratings of the Scenarios for each of the four sets of questions were compared across the five types of play in a MANOVA analysis. Discriminant analyses were also performed with the data to test whether the internal consistency among the four sets of each play type is greater than the consistency across types.

The results were strongly in favour of the identification of five separate types of play and in most cases the scenarios served to delineate the parameters of each type.

Discussion

The goal of this project was to identify and describe the varieties of play by means of a motivational approach. It had been suggested that the content of a play activity may not be the most important basis for a taxonomy because the content is shaped largely by the conditions under which the play is performed. Thus, social play is restricted by the non-existence of other players. Moreover, games, it was

argued, are not a true form of play because of the extrinsic confines of place, players and rules and because the goal is to overcome, beat or restrict others or objects.

It should follow that play, in its present form, is autotelic (playful) - done only for its own sake and that the rewards for performing the activity lie wholly within the activity itself.

The results show that most of the scenarios are high in autotelicity. But they also are motivated to some extent by exotelicity.

Let us re-examine the definition of autotelic as defined operationally by scores on the WHY scale. A high score would be one that is loaded on the following five reasons:

because you are learning something

because it is interesting

because you feel like it

because of the challenge

because its exciting

Since each of these is measured on an 11-point scale (0-10) the maximum score would be 50. Actually, the mean scores for the scenarios on the 5 autotelic and 5 exotelic scales are presented in Table 4 and in Figure 1.

Insert Table 4 and Figure 1 above here

Except for Diversive play, there were no significant differences among the four scenarios for the other types of play. However, it is clear from Figure 1 that Diversive, Mimetic and Cathartic play are less playful than the others (64%, 65% and 66% of the total motivation).

The alternative to autotelic is exotelic and theoretically the play scenarios should not be extrinsically motivated at all. In fact, we find that all of the scenarios have an exotelic component. However, the variability among the scenarios is higher than it is in autotelicity. It seems that the five types of play are less well defined in terms of their workfulness components.

For example, the difference between two scenarios in Exploratory play is greatest when one scenario describing a five year old coming to Kindergarten for the first time is characterized by a high level of exotelicity, whereas one scenario describes a stroll on huge rocks on a shore-line leading off into the distance. The latter is very low on exotelicity.

Exotelicity was defined operationally by the following five statements:

because of the money

because of recognition or respect

because you get to be somebody

because you have to

because its expected of you

Clearly, going to Kindergarten implies more obligation than strolling on the shore.

Figure 1 shows that Diversive and Cathartic play both are located significantly below the other three on autotelicity and rank lowest on total motivational strength and proportion of autotelicity in the total motivation. We must wonder if following the earlier definition of play these should be excluded from within the construct.

Certainly there is question regarding Cathartic play or play therapy as it commonly known. It has few of the motivational bases for play and only the structural ones. It is initiated and terminated by someone else and its purpose is to communicate information to others while possibly reducing a high level of arousal induced by external situations. It is true that during the course of the activity the child may be attracted to some of the play objects and explore them or create with them. But one might wonder whether Cathartic play hasn't given way to Exploratory or Creative play.

The five types of play had also been assessed on the 3 factors of the Mehrabian & Russell scales. Figure 2 shows the distribution of the play types on the three scales.

Insert Figure 2

Diversive play is clearly different from the other types - and as seen in Figure 2 is unpleasant, unarousing and gives a feeling of lack of control or dominance.

The problem with Diversive play is more difficult. As defined by Berlyne, diversive exploration is induced by boredom, a form of high arousal resulting from an environment low in Collative Variability, or, in other words, a situation of low uncertainty. The exploration takes the form of seeking uncertainty so that specific exploration can follow.

When we re-examine the five operational definitions of autotelic behavior in the form of the WHY Scale items we see no reason why the scores should be high. A typical scenario describes a situation of nothing to do in an overly predictable environment. There is little uncertainty. One surely is not learning anything, find it interesting, doing it because one feels like it, or because it is challenging or exciting. Scores on the Mehrabian and Russell scales describe it as arousing but not pleasant and without a feeling of control. If play is an interaction between a player and a stimulating environment, Diversive play fails to meet these conditions and it must be questioned whether the vague, undirected shifting about among different elements of an environment, such as a bunch of toys, can be considered as playful activity. But like Cathartic play, once begun, attraction to a particular object or situation may follow and lead to Exploratory or Creative play.

We would then be left with three forms of play: Exploratory, Creative and Mimetic, the first two the true forms

of play, high in autotelicity and having little exotelic motivation. These come closest to a situation of all playfulness and little workfulness and can occur in conditions of interaction between a single individual and an object or situation. The feelings associated with the three types of play as measured on the Mehrabian and Russell scales are different and these differences are interesting. While all three are highly pleasurable, Creative play is less arousing and Exploratory play is characterized by feelings of least control. Mimetic play is somewhat different in that one wants to be like someone else or to improve the effectivity of one's behavior and so the act has more instrumentality than the other two forms of play. As shown in one example (John McEnroe) the players wants to practice in order to improve and the reward may be extrinsic to the activity itself.

Further study should help account for the differences within the play types.

We expect to do a study with Multidimensional Scaling to reexamine the validity of the types of play, their motivations and the feelings they engender in the players.

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Table 1

Play Typology

Type	Environment Trigger	Motivational Trigger	Play Characteristics	Goals
Explatory	High in collative properties	Low arousal	Locomotion towards a concentrated interaction with stimulation. Factual inquiry.	Decrease in uncertainty. Factual Information.
Creative	Familiar but complex environment	Moderate arousal	Intense, concentrated interaction with stimulation. Symbolic and fantasy play. Explanatory inquiry.	Explanatory information. Effectance.
Diversive	Low in collative properties. Stimulus deficient.	Boredom	Aimless, easily distracted. Idle play.	Increase in uncertainty.
Mimetic	Presence of trigger objects and situations.	Curiosity	Structured, formal. Often repetitive.	Vicarious pleasure. Effectance.
Cathartic	Presence of trigger objects and situations.	High tension. Anxiety, anger, and hostility.	Concentrated symbolic and fantasy play. Often destructive.	Tension reduction.

Table 2

WHY Scale

We want to understand the feelings and motivation of people in various situations. We would therefore like you to imagine yourself in this particular situation and respond to the questions as if you were in it.

John McEnroe has just won the Canadian Open Tennis Championship again with his superb serve. Since you are a lefty too you can serve like him. You go out for a game and will perfect your foot-parallel-to-the-base line serve.

Why are you doing the imagined activity?

Put a number from 0 to 10 for each statement that represents the degree to which each reason answers why you do it.

(0 means not at all, 1 means very, very little and so on to 10 meaning very, very much.)

	Number 0-10	
Because you are learning something	_____	Autotelic
Because of the money	_____	Exotelic
Because it is interesting	_____	Autotelic
Because of recognition or respect	_____	Exotelic
Because you feel like it	_____	Autotelic
Because you get to be somebody	_____	Exotelic
Because of the challenge	_____	Autotelic
Because you have to	_____	Exotelic
Because it's exciting	_____	Autotelic
Because it is expected of you	_____	Exotelic

Table 3a

Exploratory Scenarios

---

1. You are 5 years old and have come to Kindergarten for the first time. There are lots of strange games and toys and you are allowed to explore the whole place. You go over to the first thing you see and start to play with it.

2. You are 4 years old and have been given a new toy for Christmas. It is the most wonderful strange toy and you sit right down and take it apart to see how it works.

3. You are strolling on the beach on a warm summer afternoon. Suddenly you notice a number of huge rocks on the shore line, forming a bridge into the water. Your view of the end of the "bridge" is obstructed by a hill. You climb onto the rocks to see where they are going.

4. You are an antropology major who really enjoys archeology. Your professor tells you about an old Indian village. One weekend you take a trip to the village and find it abandoned and decide to explore it.

Table 3b

Creative Scenarios

---

1. You are 4 years old and alone with your Lego blocks. They are your favorite because you can create anything you like with them.

2. You are 5 years old, it's Sunday morning and every one is asleep. You take out your construction set and build strange and wonderful things with it.

3. In your high school intermediate sculpture class, your teacher gives everyone a huge block of clay and tells them that they can do anything they want with it as long as they don't disturb others.

4. You are a computer hobbiest who is very good at writing new programs. You spy a fun game in your favorite computer magazine and sit down at your computer to design a new variation of the game.

Table 3c

Diversive Scenarios

1. You are 5 years old and have nothing to do. It's a warm day and your parents have just come for a nap and left you in your room for an hour to play.

2. You are 4 years old and have gone to the beach with the family. Everybody is just sitting around relaxed and talking while you are near them on the sand playing.

3. You are camping alone. All day you have been forced to sit in your tent because it is raining heavily. Your radio batteries are gone and you can't listen to anything. You've been sitting in the tent all day playing solitaire.

4. You are a college student in residence. It's the weekend and all your friends have left town. You go down to the recreation room and just hang around hoping that someone you know may come in and relieve your boredom.

Table 3d

Memetic Scenarios

---

1. You are 5 years old and together with your best playmate are playing doctor. In your game you are grown ups and do all the things that you have seen doctors do with patients.

2. You are 4 years old and looking through the family storage closets. You come across some of your parent's old clothes and dress up in them, imitating their walk and talk.

3. You are 4 years old and snuck into your parents' study. On the desk you find a fountain-pen and a stack of letterhead paper. You can now write a letter to anyone you choose, just like Mom and Dad.

4. John McEnroe has just won the Canadian Open Tennis Championship again with his superb serve. Since you are a lefty too you can serve like him. You go out for a game and will perfect your foot-parallel-to-the-base line serve.

Table 3e

Cathartic Scenarios

1. You are 5 years old and a psychiatric problem. Your mother has taken you to the psychiatrist because she doesn't know what else to do. Your behavior is always wild and destructive. You meet the doctor who takes you into a therapy playroom and invites you to play with any of the toys. You start to play with the building blocks.

2. You are 4 years old and in a psychologist's office. You have had a lengthy history of disturbed, neurotic behavior. You are introduced to the psychologist, a very pleasant person, who takes you into a playtherapy room and lets you play with the toys there. There is a Mommy, Daddy, and child to play with.

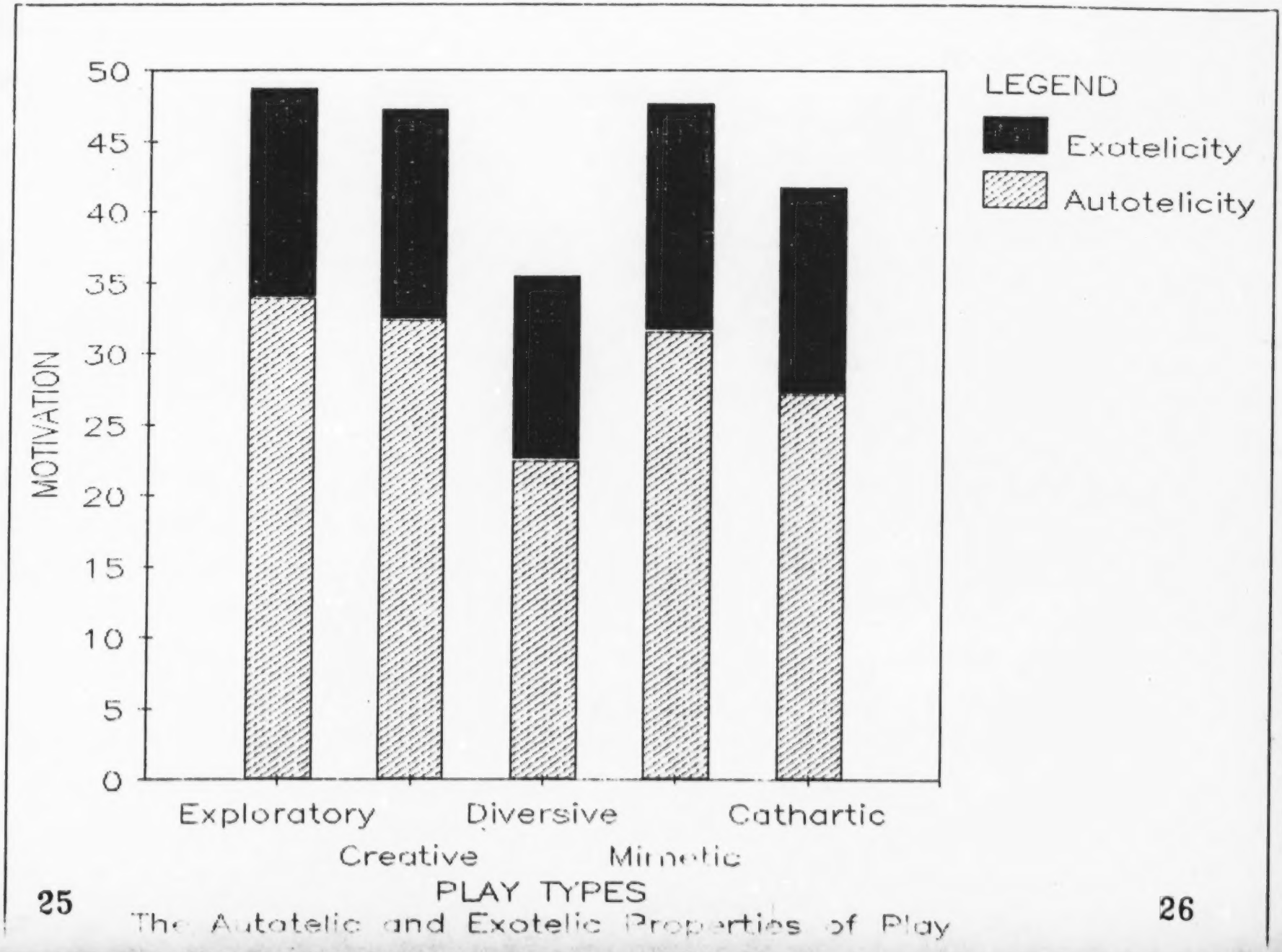
3. You are 4 years old and troubled with all kinds of problems. Your parents have taken you to a psychologist who takes you into a room filled with toys and games and tells you that you can do anything you choose.

4. The last month of school has not gone at all well. You are depressed. Your best friend notices and challenges you to a game of racquet ball, hoping it will help lift your spirits. You take him up on it. The game has just started.

Table 4

Mean scores for the 10 WHY Scales across five play types

	Exploratory	Creative	Diversive	Mimetic	Cathartic
Autotelic					
Learning	5.62	5.13	3.63	4.54	3.94
Interesting	7.14	7.31	4.78	6.72	6.09
Feel like it	7.15	6.90	5.75	7.29	6.17
Challenge	6.76	6.65	4.44	5.92	5.33
Exciting	6.83	6.27	4.15	6.79	5.65
TOTAL	33.50	32.26	22.75	31.26	27.18
Rank among types	1	2	5	3	4
Exotelic					
Money	0.90	1.24	0.83	1.56	0.48
Recognition	3.56	4.22	2.63	4.37	3.49
Get to be	3.55	3.37	2.52	5.57	3.62
Have to	3.35	2.79	3.48	1.78	3.15
Expected	3.29	3.23	3.26	2.64	3.84
	14.65	14.85	12.72	15.92	14.58
Rank among types	3	2	5	1	4
Total motivation	48.15	47.11	35.47	47.18	41.76
Rank among types	1	3	5	2	4
% playfulness	70	68	64	66	65



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The Autotelic and Exotelic Properties of Play

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